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MEGATEK CORP SAN DIEGO CA  
OMEGA JAPAN ANTENNA SYSTEM: MODIFICATION AND VALIDATION TESTS. --ETC(U)  
OCT 79 J C HANSELMAN

F/6 17/7

N00123-78-C-0043

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NOSC-TR-492-VOL-2

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# **Technical Report 492**

## **Volume 2**

# **OMEGA JAPAN ANTENNA SYSTEM: MODIFICATION AND VALIDATION TESTS.**

## Volume 2: Data Sheets

JC Hanselman, Megatek Corp.

15 October 1979

## Final Report

Oct. 17

**Prepared for  
US Coast Guard**

Approved for public release: distribution unlimited

**NAVAL OCEAN SYSTEMS CENTER  
SAN DIEGO, CALIFORNIA 92152**

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A N A C T I V I T Y O F T H E N A V A L M A T E R I A L C O M M A N D

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**SL GUILLE, CAPT, USN**

*Commander*

**HL BLOOD**

*Technical Director*

**ADMINISTRATIVE INFORMATION**

Electronic measurements were performed on the OMEGA Japan Antenna System during the months of October and November 1978. The work was performed under NOSC Project MP01538B10 with Megatek Corporation as contractor under NOSC Contract N00123-78-C-0043, Task 014.

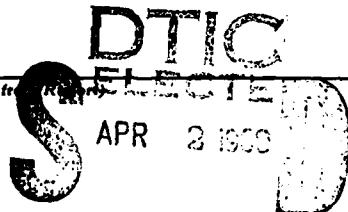
Volume 1 is the report proper. Volume 2 contains data sheets.

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JH Richter, Head  
Electromagnetic Propagation  
Division

Under authority of  
JD Hightower, Head  
Environmental Sciences  
Department

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER NOSC Technical Report 492 (TR 492)	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) OMEGA JAPAN ANTENNA SYSTEM: MODIFICATION AND VALIDATION TESTS (Two Volumes) Volume 2		5. TYPE OF REPORT & PERIOD COVERED Final
7. AUTHOR(s) JC Hanselman (Megatek Corporation)		6. PERFORMING ORG. REPORT NUMBER N00123-78-C-0043 ✓
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Ocean Systems Center San Diego, CA 92152		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NOSC MP01538B10
11. CONTROLLING OFFICE NAME AND ADDRESS US Coast Guard Washington, DC 20591		12. REPORT DATE 15 October 1979
		13. NUMBER OF PAGES 65
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)  Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Block 16)  		
18. SUPPLEMENTARY NOTES  Volume 1 is the report proper. Volume 2 contains data sheets.		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)  OMEGA vlf navigation system                    Measurements – electrical Antennas - configuration                    Radiation resistance – efficiency Monopole antenna		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  Electronic measurements were performed on the OMEGA Japan antenna system during October-November 1978. The work was performed by Megatek Corporation under contract and by NOSC under Project MP01538B10. The electrical height of the antenna is 210 metres for all frequencies. The station will be able to radiate 10 kW with antenna currents of 360 amperes at 10.2 kHz to 270 amperes at 13.6 kHz. Recommendations are made regarding the gear ratios to use with the variometers.		

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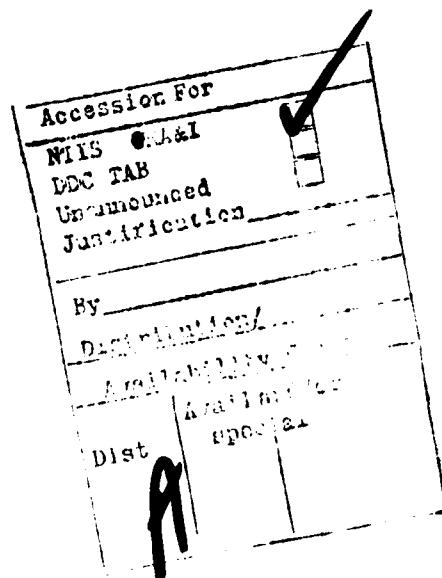
DATA SHEET 2: ANTENNA SYSTEM RESISTANCE . . . (not used in this report)

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## INTRODUCTION

During the performance of modification and validation tests at OMEGA Japan, data and all pertinent information collected were recorded on appropriate data sheets. This information was later transcribed as necessary to data sheets designed to facilitate analysis and computation of desired operating parameters.

These data and computation sheets are presented herewith in rough form for future reference.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

PAGE 1 OF 2

OMEGA STATION: JAPANSITE NO. C 1DATE: 26 OCT 1978 $I_{as}$  150 A.  $K_1$  0.98  $K_2$  0.99  $K_3$  1.00LOOP HEIGHT 2 (m. ~~alt.~~) TRIPOD X HELICOPTER         
(ABOVE: SURFACE - ~~SEA LEVEL~~)TYPE OF MEASUREMENT: HELICOPTER CAL. X BENCHMARK        ROUTINE       

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
<u>1254</u>	10.20	<u>60.0</u>								
	13.60	<u>80.2</u>								
	11.1/3	<u>64.5</u>								
	11.05	<u>63.5</u>								
<u>1248</u>	$F_t$ 12.80	<u>74.4</u>								

<u>1300</u>	10.20	<u>61.2</u>								
	13.60	<u>80.8</u>								
	11-1/3	<u>64.3</u>								
	11.05	<u>63.2</u>								
<u>1255</u>	$F_t$ 12.80	<u>74.2</u>								

<u>1310</u>	10.20	<u>60.4</u>								
	13.60	<u>80.1</u>								
	11-1/3	<u>63.7</u>								
	11.05	<u>63.7</u>								
<u>1305</u>	$F_t$ 12.80	<u>73.9</u>								

COMMENT: CENTER OF HELO PAD. POOR NULL  $\approx 10^\circ$   
LEFT OF TOWER.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS PAGE 2 OF 2.

OMEGA STATION: JAPAN SITE NO. C1 DATE: 26 OCT 1978

 $I_{as}$  150 A.  $K_1$  0.98  $K_2$  0.99  $K_3$  1.00LOOP HEIGHT 2 (m. ~~surface~~) TRIPOD X HELICOPTER \_\_\_\_\_

TYPE OF MEASUREMENT: HELICOPTER CAL. X BENCHMARK \_\_\_\_\_ ROUTINE \_\_\_\_\_

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1325	10.20	60.5								
	13.60	80.4								
	11.1/3	63.6								
	11.05	63.4								
1318	$F_t$ 12.80	73.8								

	10.20									
	13.60									
	11-1/3									
	11.05									
	$F_t$ 12.80									

	10.20									
	13.60									
	11-1/3									
	11.05									
	$F_t$ 12.80									

COMMENT

DATA SHEET 5 (DS-5)  
RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. C 1 DATE: 26 Oct 1978

$I_{as}$  150 A.  $K_1$  0.98  $K_2$  1.00  $K_3$  1.00

LOOP HEIGHT 2 (m.) (m.)  
(ABOVE: SURFACE - ~~50~~) TRIPOD \_\_\_\_\_ HELICOPTER X

TYPE OF MEASUREMENT: HELICOPTER CAL. X BENCHMARK \_\_\_\_\_ ROUTINE \_\_\_\_\_

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1403	10.20	56.8	105							
1403	13.60	75.1								
1402	11.1/3	59.3								
1400	11.05	58.4								
1355	$F_t$ 12.80	68.1								

1408	10.20	56.3								
1407	13.60	75.2								
1406	11-1/3	59.9								
1405	11.05	59.4								
1404	$F_t$ 12.80	68.7								

1413	10.20	55.9								
1412	13.60	75.6								
1411	11-1/3	60.1								
1410	11.05	59.8								
1409	$F_t$ 12.80	69.5								

COMMENT: LOOP SIDE (LEFT) OF HELO TOWARD THE STATION.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. C1 DATE: 26 Oct 1978 $I_{as}$  150 A.  $K_1$  0.98  $K_2$  1.00  $K_3$  1.00LOOP HEIGHT 2 (m. ~~sealevel~~) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: SURFACE - ~~SEALEVEL~~)TYPE OF MEASUREMENT: HELICOPTER CAL. X BENCHMARK \_\_\_\_\_ ROUTINE \_\_\_\_\_

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1421	10.20	56.2	285					
1420	13.60	75.2						
1419	11.1/3	59.9						
1418	11.05	59.3						
1417	$F_t$ 12.80	69.0						

1428	10.20	55.4						
1427	13.60	74.3						
1425	11-1/3	59.3						
1424	11.05	59.1						
1423	$F_t$ 12.80	69.6						

1433	10.20	55.6						
1432	13.60	74.0						
1431	11-1/3	59.3						
1430	11.05	58.8						
1429	$F_t$ 12.80	68.4						

COMMENT: LOOP SIDE(LEFT) OF HELO AWAY FROM THE STATION.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. C2 DATE: 29 Oct 1978

I<sub>as</sub> 350 A. K<sub>1</sub> 0.98 K<sub>2</sub> 0.99 K<sub>3</sub> 1.00LOOP HEIGHT 2 (m./~~ft.~~) TRIPOD X HELICOPTER \_\_\_\_\_  
(ABOVE: SURFACE - ~~\_\_\_\_\_~~)TYPE OF MEASUREMENT: HELICOPTER CAL. X BENCHMARK \_\_\_\_\_ ROUTINE \_\_\_\_\_

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1338	10.20	29.3								
1337	13.60	39.4								
1336	11.1/3	32.0								
1335	11.05	31.4								
1335	F <sub>t</sub> 12.80	37.2								

1343	10.20	29.3								
1342	13.60	39.5								
1341	11-1/3	32.3								
1340	11.05	31.4								
1339	F <sub>t</sub> 12.80	37.5								

1347	10.20	29.4								
1346	13.60	39.7								
1345	11-1/3	32.2								
1345	11.05	31.4								
1344	F <sub>t</sub> 12.80	37.4								

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. C2 DATE: 29 OCT 1978 $I_{as}$  350 A.  $K_1$  0.98  $K_2$  1.00  $K_3$  1.00LOOP HEIGHT 2 (m.) (m.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: SURFACE - ~~SURFACE~~)TYPE OF MEASUREMENT: HELICOPTER CAL. X BENCHMARK \_\_\_\_\_ ROUTINE \_\_\_\_\_

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1408	10.20	27.2	340					
1407	13.60	36.5						
1406	11.1/3	29.6						
1405	11.05	29.0						
1404	$F_t$ 12.80	34.4						

1413	10.20	27.1						
1412	13.60	36.5						
1411	11-1/3	29.5						
1410	11.05	28.9						
1409	$F_t$ 12.80	34.7						

1417	10.20	27.1						
1416	13.60	36.4						
1415	11-1/3	29.7						
1415	11.05	28.9						
1414	$F_t$ 12.80	34.4						

COMMENT: LOOP SIDE (LEFT) OF HELD TOWARD THE STATION.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. C2 DATE: 29 Oct 1978 $I_{as}$  350 A.  $K_1$  0.98  $K_2$  1.00  $K_3$  1.00LOOP HEIGHT 2 (m. ~~alt.~~) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: SURFACE - ~~Sea level~~)TYPE OF MEASUREMENT: HELICOPTER CAL. X BENCHMARK \_\_\_\_\_ ROUTINE \_\_\_\_\_

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1424	10.20	27.4	160							
1423	13.60	36.4								
1422	11.1/3	29.2								
1421	11.05	29.0								
1420	$F_t$ 12.80	34.5								

1428	10.20	27.1								
1427	13.60	36.4								
1426	11-1/3	29.6								
1426	11.05	28.9								
1425	$F_t$ 12.80	34.6								

1433	10.20	27.3								
1432	13.60	36.4								
1430	11-1/3	29.9								
1430	11.05	29.0								
1429	$F_t$ 12.80	34.6								

COMMENT: LOOP SIDE (LEFT) OF HELO AWAY FROM THE STATION.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 2 DATE: 29 OCT 1978 $I_{as}$  350 A.  $K_1$  0.98  $K_2$  1.00  $K_3$  1.00LOOP HEIGHT 2 (m.) (AFTER: SURFACE - ~~2000~~) TRIPOD \_\_\_\_\_ HELICOPTER XTYPE OF MEASUREMENT: HELICOPTER CAL. — BENCHMARK — ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1408	10.20	27.2	340					
1407	13.60	36.5						
1406	11.1/3	29.6						
1405	11.05	29.0						
1404	$F_t$ 12.80	34.4						

1413	10.20	27.1						
1412	13.60	36.5						
1411	11-1/3	29.5						
1410	11.05	28.9						
1409	$F_t$ 12.80	34.7						

1417	10.20	27.1						
1416	13.60	36.4						
1415	11-1/3	29.7						
1415	11.05	28.9						
1414	$F_t$ 12.80	34.4						

COMMENT: LOOP SIDE (LEFT) OF HELD TOWARD THE STATION.  
HEIGHT-GAIN MEASUREMENT.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 2 DATE: 29 Oct 1978 $I_{as}$  350 A.  $K_1$  0.98  $K_2$  1.00  $K_3$  1.00LOOP HEIGHT 2 (m.)  
(ABOVE: SURFACE - ~~S~~) TRIPOD \_\_\_\_\_ HELICOPTER XTYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1424	10.20	27.4	160							
1423	13.60	36.4								
1422	11.1/3	29.2								
1421	11.05	29.0								
1420	$F_t$ 12.80	34.5								

1428	10.20	27.1								
1427	13.60	36.4								
1426	11-1/3	29.6								
1426	11.05	28.9								
1425	$F_t$ 12.80	34.6								

1433	10.20	27.3								
1432	13.60	36.4								
1430	11-1/3	29.9								
1430	11.05	29.0								
1429	$F_t$ 12.80	34.6								

COMMENT: LOOP SIDE (LEFT) OF HELO AWAY FROM THE  
STATION.

HEIGHT-GAIN MEASUREMENT.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 2 DATE. 29 OCT 1978 $I_{as}$  350 A.  $K_1$  0.98  $K_2$  1.00  $K_3$  1.07LOOP HEIGHT 500 ( $\text{ft}/\text{ft.}$ ) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~500~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. \_\_\_\_\_ BENCHMARK \_\_\_\_\_ ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1443	10.20	30.4	340							
1442	13.60	40.0								
1441	11.1/3	33.3								
1440	11.05	32.4								
1439	$F_t$ 12.80	38.7								

	10.20									
	13.60									
	11-1/3									
	11.05									
	$F_t$ 12.80									

	10.20									
	13.60									
	11-1/3									
	11.05									
	$F_t$ 12.80									

COMMENT: LOOP SIDE (LEFT) OF HELO TOWARD THE STATION.

HEIGHT - GAIN MEASUREMENT.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN

SITE NO. 2

DATE: 29 Oct 1978

I<sub>as</sub> 350 A. K<sub>1</sub> 0.98K<sub>2</sub> 1.00K<sub>3</sub> 1.07LOOP HEIGHT 1,000 (~~ft~~/ft.)  
(ABOVE: ~~SEA LEVEL~~ - SEA LEVEL)

TRIPOD

HELICOPTER X

TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1453	10.20	30.8	340							
1452	13.60	40.9								
1451	11.1/3	33.5								
1451	11.05	32.5								
1450	F <sub>t</sub> 12.80	39.0								

	10.20									
	13.60									
	11-1/3									
	11.05									
	F <sub>t</sub> 12.80									

	10.20									
	13.60									
	11-1/3									
	11.05									
	F <sub>t</sub> 12.80									

COMMENT: LOOP SIDE (LEFT) OF HELD TOWARD THE STATION.  
HEIGHT-GAIN MEASUREMENT.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 2 DATE: 29 Oct 1978 $I_{as}$  350 A.  $K_1$  0.98  $K_2$  1.00  $K_3$  1.07LOOP HEIGHT 1,500 (~~ft~~/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SEA LEVEL~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1504	10.20	31.2	340					
1503	13.60	40.9						
1502	11.1/3	33.6						
1501	11.05	32.4						
1500	$F_t$ 12.80	38.9						

	10.20							
	13.60							
	11-1/3							
	11.05							
	$F_t$ 12.80							

	10.20							
	13.60							
	11-1/3							
	11.05							
	$F_t$ 12.80							

COMMENT: LOOP SIDE (LEFT) OF HELD TOWARD THE  
STATION.  
HEIGHT-GAIN MEASUREMENT.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 2 DATE: 29 OCT 1978 $I_{as}$  350 A.  $K_1$  0.98  $K_2$  1.00  $K_3$  1.07LOOP HEIGHT 2,000 ( $\text{E}/\text{ft.}$ ) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~\_\_\_\_\_~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. \_\_\_\_\_ BENCHMARK \_\_\_\_\_ ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1514	10.20	31.4	340							
1513	13.60	40.9								
1512	11.1/3	33.8								
1511	11.05	33.0								
1510	$F_t$ 12.80	38.9								

	10.20									
	13.60									
	11-1/3									
	11.05									
	$F_t$ 12.80									

	10.20									
	13.60									
	11-1/3									
	11.05									
	$F_t$ 12.80									

COMMENT: LOOP SIDE(LEFT) OF HELD TOWARD THE STATION.

HEIGHT-GAIN MEASUREMENT.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. B2 DATE: 29 OCT 1978 $I_{as}$  350 A.  $K_1$  0.98  $K_2$  0.99  $K_3$  1.00LOOP HEIGHT 2 (m. ~~surf.~~) TRIPOD X HELICOPTER \_\_\_\_\_(ABOVE: SURFACE - ~~SEA LEVEL~~) TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK X ROUTINE \_\_\_\_\_

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1338	10.20	29.3								
1337	13.60	39.6								
1336	11.1/3	32.0								
1335	11.05	31.4								
1335	$F_t$ 12.80	37.2								

1343	10.20	29.3								
1342	13.60	39.5								
1341	11-1/3	32.3								
1340	11.05	31.4								
1339	$F_t$ 12.80	37.5								

1347	10.20	29.4								
1346	13.60	39.7								
1345	11-1/3	32.2								
1345	11.05	31.4								
1344	$F_t$ 12.80	37.4								

COMMENT: SAME DATA AS HELD CALIBRATION

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 1-1 DATE: 1 November 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 ~~ft.~~ /ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SEA LEVEL~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D M E			DIST. km.	AZ. °T.
				D1	D2	D3		
1304	10.20	25.3	340	36102	32940	30.2	026	
1303	13.60	33.5		36073	32933	30.1	026	
1302	11.1/3	27.5		36062	32954	30.1	027	
1301	11.05	27.4		36063	32972	30.1	027	
1301	F <sub>t</sub> 12.80	31.7		36049	32986	30.1	027	

1308	10.20	24.9		36251	33111	30.3	026
1307	13.60	33.8		36118	32977	30.2	026
1306	11-1/3	27.7		35989	32870	30.1	026
1305	11.05	27.4		36005	32874	30.1	026
1305	F <sub>t</sub> 12.80	31.5		36082	32925	30.1	026

1312	10.20	24.9		36350	33284	30.4	027
1311	13.60	33.1		36282	33213	30.4	027
1310	11-1/3	27.4		36252	33147	30.3	027
1310	11.05	26.9		36215	33120	30.3	027
1309	F <sub>t</sub> 12.80	31.4		36268	33153	30.3	027

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 1-2 DATE: 1 November 1978

I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 (X/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: XXXXX - SEA LEVEL)

TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D M E			DIST. km.	AZ. OT.
				D1		D2		
1325	10.20	28.8	340	32222		29585	26.4	028
1324	13.60	38.1		32235		29587	26.4	028
1323	11.1/3	31.4		32207		29564	26.3	028
1322	11.05	31.1		32226		29529	26.3	028
1321	F <sub>t</sub> 12.80	36.5		32198		29485	26.3	028

1330	10.20	28.8		32226	29577	26.4	028
1329	13.60	38.5		32178	29552	26.3	028
1328	11-1/3	31.4		32195	29573	26.3	028
1327	11.05	30.6		32261	29632	26.4	028
1326	F <sub>t</sub> 12.80	36.5		32270	29630	26.4	028

1334	10.20	28.9		32220	29624	26.4	028
1333	13.60	38.0		32302	29657	26.4	028
1332	11-1/3	31.6		32246	29618	26.4	028
1332	11.05	30.7		32243	29610	26.4	028
1331	F <sub>t</sub> 12.80	36.3		32251	29597	26.4	028

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 1-3 DATE: 1 November 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 X /ft.) (ABOVE: X - SEA LEVEL) TRIPOD \_\_\_\_\_ HELICOPTER XTYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1347	10.20	35.5	340	27393		24204	21.2	024
1346	13.60	46.8		27501		24281	21.3	024
1345	11.1/3	39.0		27550		24346	21.4	024
1344	11.05	37.3		27597		24400	21.4	024
1343	F <sub>t</sub> 12.80	44.2		27588		24412	21.4	024

1351	10.20	35.4		27504		24436	21.4	025
1350	13.60	47.4		27595		24484	21.5	024
1349	11-1/3	39.1		27554		24452	21.4	024
1349	11.05	38.4		27485		24376	21.4	024
1348	F <sub>t</sub> 12.80	44.6		27353		24241	21.2	024

1355	10.20	35.6		27408		24436	21.3	025
1354	13.60	47.1		27461		24461	21.4	025
1354	11-1/3	39.3		27448		24435	21.3	025
1353	11.05	38.2		27450		24425	21.3	025
1352	F <sub>t</sub> 12.80	44.3		27450		24421	21.3	025

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 1-4 DATE: 1 November 1978

I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 (X./ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SEA LEVEL~~ - SEA LEVEL)

TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D M E			DIST. km.	AZ. OT.
				D1	D2			
1413	10.20	51.0	340	21352		19301	15.3	027
1412	13.60	67.2		21346		19297	15.3	027
1411	11.1/3	56.4		21378		19273	15.3	027
1410	11.05	55.4		21365		19260	15.3	027
1409	F <sub>t</sub> 12.80	63.3		21356		19199	15.2	026

1417	10.20	51.2		21282	19434	15.3	028
1416	13.60	68.1		21214	19335	15.2	028
1415	11-1/3	57.0		21251	19328	15.2	028
1415	11.05	55.2		21292	19309	15.2	027
1414	F <sub>t</sub> 12.80	63.4		21345	19311	15.3	027

1420	10.20	50.6		21299	19605	15.3	029
1419	13.60	67.7		21267	19543	15.3	029
1418	11-1/3	56.8		21249	19519	15.3	029
1418	11.05	55.5		21284	19513	15.3	029
1417	F <sub>t</sub> 12.80	63.7		21263	19501	15.3	029

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 2-1 DATE: 31 October 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 ( $\mu$ /ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SEA LEVEL~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1153	10.20	25.7	030	31368		27145	30.2	077
1152	13.60	32.7		31229		27058	30.1	077
1151	11.1/3	26.8		31361		27189	30.3	077
1151	11.05	26.2		31347		27143	30.2	077
1150	F <sub>t</sub> 12.80	32.1		31341		27199	30.3	077

1158	10.20	25.5		31324		27090	30.2	077
1157	13.60	32.5		31288		27086	30.2	077
1156	11-1/3	26.5		31392		27157	30.3	077
1155	11.05	26.3		31437		27206	30.3	077
1154	F <sub>t</sub> 12.80	31.4		31357		27150	30.2	077

1200	10.20	25.8		31444		27245	30.3	077
1159	13.60	32.7		31352		27122	30.2	077
1158	11-1/3	26.6		31466		27232	30.3	077
1201	11.05	26.5		31498		27326	30.4	077
1158	F <sub>t</sub> 12.80	31.3		31385		27165	30.3	077

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 2-2 DATE: 31 October 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 (~~X~~/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~XXXXXX~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	DIST. km.	AZ. OT.
				D1	M		
1217	10.20	29.5	030	27248		22957	26.0
1215	13.60	38.2		27178		22890	25.9
1215	11.1/3	32.0		27183		22905	25.9
1214	11.05	30.8		27201		22940	26.0
1213	F <sub>t</sub> 12.80	36.3		27197		22918	25.9

1221	10.20	28.8		27457	23147	26.2	077
1220	13.60	38.0		27446	23126	26.2	077
1219	11-1/3	31.8		27329	23028	26.1	077
1218	11.05	30.7		27309	22982	26.0	077
1217	F <sub>t</sub> 12.80	36.6		27304	22993	26.0	077

1225	10.20	29.0		27557	23313	26.3	077
1225	13.60	37.6		27531	23286	26.3	077
1224	11-1/3	31.5		27556	23289	26.3	077
1223	11.05	30.5		27564	23265	26.3	077
1222	F <sub>t</sub> 12.80	36.6		27459	23165	26.2	077

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 2-3 DATE: 1 November 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 (ft./ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SEA LEVEL~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1031	10.20	38.6	030	20641		17234	19.6	082
1030	13.60	51.5		20760		17308	19.7	081
1030	11.1/3	42.9		20766		17325	19.7	081
1029	11.05	41.4		20799		17371	19.8	082
1028	F <sub>t</sub> 12.80	47.0		20897		17498	19.9	082

1035	10.20	38.2		20680		17349	19.7	082
1034	13.60	51.7		20712		17356	19.7	082
1033	11-1/3	43.1		20692		17323	19.7	082
1032	11.05	42.2		20663		17273	19.7	082
1032	F <sub>t</sub> 12.80	48.2		20645		17239	19.6	082

1039	10.20	38.2		20707		17363	19.7	082
1038	13.60	51.7		20663		17334	19.7	082
1038	11-1/3	43.5		20611		17297	19.7	082
1037	11.05	41.8		20596		17292	19.6	082
1036	F <sub>t</sub> 12.80	48.0		20634		17313	19.7	082

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 2-4 DATE: 1 November 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 ft./ft. (ABOVE: ~~SEA LEVEL~~ - SEA LEVEL) TRIPOD \_\_\_\_\_ HELICOPTER XTYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1054	10.20	48.2	035	16868		13925	15.9	084
1053	13.60	64.7		16912		13906	15.9	084
1052	11.1/3	54.2		16917		13871	15.9	084
1051	11.05	53.3		16799		13803	15.8	084
1050	F <sub>t</sub> 12.80	61.4		16767		13763	15.7	084

1100	10.20	47.4		17047		14051	16.0	084
1059	13.60	63.9		17017		14052	16.0	084
1058	11-1/3	53.6		16983		14035	16.0	084
1056	11.05	52.3		16987		14038	16.0	084
1055	F <sub>t</sub> 12.80	59.8		16966		14036	16.0	084

1107	10.20	47.0		17291		14263	16.3	084
1106	13.60	63.2		17074		14157	16.1	084
1105	11-1/3	52.5		17111		14114	16.1	084
1103	11.05	52.9		17073		14068	16.1	084
1102	F <sub>t</sub> 12.80	59.5		17117		14072	16.1	084

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 3-1 DATE: 31 October 1978

I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 ~~ft.~~/ft.) TRIPOD HELICOPTER X  
(ABOVE: ~~SEA LEVEL~~ - SEA LEVEL)

TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1355	10.20	23.7	065	28460		32796	32.1	116
1354	13.60	30.8		28457		32796	32.1	116
1353	11.1/3	25.3		28461		32781	32.1	116
1352	11.05	25.2		28454		32783	32.1	116
1351	F <sub>t</sub> 12.80	29.6		28430		32759	32.1	116

1359	10.20	23.7		28654		32948	32.3	116
1358	13.60	31.0		28634		32935	32.2	116
1357	11-1/3	25.3		28505		32840	32.1	116
1356	11.05	25.2		28486		32827	32.1	116
1355	F <sub>t</sub> 12.80	29.8		28492		32831	32.1	116

1362	10.20	23.8		28951		33184	32.5	115
1362	13.60	30.4		28921		33180	32.5	116
1361	11-1/3	24.9		28855		33120	32.5	116
1360	11.05	24.9		28807		33077	32.4	116
1359	F <sub>t</sub> 12.80	29.6		28658		32964	32.3	116

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 3-2 DATE: 31 October 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 (X./ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SURFACE~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D			DIST. km.	AZ. OT.
				D1	M	E		
1421	10.20	32.3	065	20184		24325	23.5	115
1420	13.60	43.1		20091		24270	23.4	116
1420	11.1/3	36.0		19938		24172	23.3	116
1419	11.05	35.1		19903		24035	23.2	115
1418	F <sub>t</sub> 12.80	40.3		19993		24050	23.2	115

1425	10.20	32.2		20286		24375	23.6	115
1424	13.60	42.1		20224		24339	23.5	115
1424	11-1/3	35.6		20160		24323	23.5	115
1423	11.05	34.5		20206		24370	23.5	115
1422	F <sub>t</sub> 12.80	40.1		20215		24370	23.5	115

1430	10.20	32.0		20244		24286	23.5	115
1430	13.60	42.3		20179		24238	23.4	115
1429	11-1/3	35.8		20176		24197	23.4	115
1428	11.05	34.4		20160		24204	23.4	115
1427	F <sub>t</sub> 12.80	40.1		20230		24273	23.5	115

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 3-3 DATE: 31 October 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 (X/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SURFACE~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
				D1	D M E			
1450	10.20	34.4	065	18598		22613	21.8	115
1449	13.60	46.1		18514		22605	21.7	115
1448	11.1/3	39.3		18408		22558	21.7	115
1447	11.05	37.9		18371		22548	21.6	116
1446	F <sub>t</sub> 12.80	43.6		18288		22494	21.6	116

1455	10.20	34.7		18633		22676	21.8	115
1454	13.60	46.1		18711		22694	21.9	115
1453	11-1/3	38.5		18787		22721	21.9	114
1452	11.05	37.5		18677		22649	21.8	115
1451	F <sub>t</sub> 12.80	42.8		18673		22659	21.8	115

1502	10.20	34.8		18043		22447	21.4	117
1501	13.60	47.7		18176		22489	21.5	116
1500	11-1/3	39.5		18244		22523	21.6	116
1459	11.05	38.1		18277		22528	21.6	116
1458	F <sub>t</sub> 12.80	42.8		18287		22573	21.6	116

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 3-4 DATE: 31 October 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 1000 X /ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~STRAK~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1516	10.20	49.2	065	12592		16885	15.6	117
1515	13.60	65.2		12708		17108	15.8	117
1514	11.1/3	54.5		12706		17149	15.8	118
1513	11.05	53.6		12670		17110	15.7	118
1512	F <sub>t</sub> 12.80	61.6		12570		17093	15.7	118

1521	10.20	48.0		12622		17357	15.9	119
1520	13.60	66.1		12488		17278	15.8	119
1519	11-1/3	56.1		12196		16850	15.4	119
1518	11.05	54.7		12230		16796	15.3	118
1517	F <sub>t</sub> 12.80	62.5		12483		16860	15.5	117

1526	10.20	48.1		12681		17376	15.9	119
1525	13.60	64.7		12545		17353	15.8	119
1524	11-1/3	54.5		12588		17269	15.8	119
1523	11.05	53.4		12646		17274	15.8	118
1522	F <sub>t</sub> 12.80	60.3		12645		17308	15.8	119

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 4-1 DATE: 1 November 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 2000 (~~X~~/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SKY~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D			DIST. km.	AZ. OT.
				D1	D	M		
1524	10.20	26.0	145	23237			31651	29.5
1523	13.60	34.1		23191			31581	29.4
1522	11.1/3	28.7		23151			31526	29.4
1522	11.05	28.1		23061			31396	29.3
1521	F <sub>t</sub> 12.80	33.0		23042			31361	29.3

1528	10.20	25.8		23410	31884	29.7	194
1527	13.60	34.2		23347	31825	29.6	194
1526	11-1/3	28.4		23381	31855	29.6	194
1525	11.05	27.6		23347	31799	29.6	194
1525	F <sub>t</sub> 12.80	32.7		23311	31752	29.6	194

1533	10.20	25.6		23435	31899	29.7	194
1531	13.60	34.2		23416	31884	29.7	194
1530	11-1/3	28.3		23465	31919	2-.7	194
1530	11.05	27.4		23448	31927	29.7	194
1529	F <sub>t</sub> 12.80	32.1		23438	31918	29.7	194

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 4-2 DATE: 1 November 1978 $I_{as}$  300 A.  $K_1$  0 . 98  $K_2$  1 . 00  $K_3$  1 . 07LOOP HEIGHT 2000 ( $\lambda$ /ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SURFACE~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1545	10.20	29.4	145	19162		27596	25.3	195
1544	13.60	39.5		19115		27575	25.3	195
1543	11.1/3	33.3		19054		27466	25.2	195
1542	11.05	32.0		19174		27623	25.3	195
1541	$F_t$ 12.80	37.2		19132		27558	25.3	195

1552	10.20	29.2		19373		27750	25.5	196
1551	13.60	39.5		19277		27621	25.4	196
1550	11-1/3	33.1		19230		27627	25.4	195
1550	11.05	32.1		19157		27587	25.3	195
1545	$F_t$ 12.80	37.3		19010		27426	25.2	195

1556	10.20	29.3		19453		27815	25.6	196
1555	13.60	39.1		19434		27832	25.6	195
1554	11-1/3	32.6		19410		27830	25.6	195
1554	11.05	31.8		19374		27756	25.5	195
1553	$F_t$ 12.80	37.0		19352		27704	25.5	196

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 4-3 DATE: 1 November 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 2500 (~~X~~/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~XX~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	DIST. km.	AZ. DT.
				D1	M		
1628	10.20	36.9	325	14033		22277	19.9
1626	13.60	49.9			13931	21984	19.7
1625	11.1/3	41.2			14043	22121	19.9
1624	11.05	40.1			14325	22614	20.2
1622	F <sub>t</sub> 12.80	46.0			14467	22812	20.4

1634	10.20	37.4		14051	22515	20.0	197
1634	13.60	50.2		13971	22367	19.9	197
1633	11-1/3	41.6		14076	22556	20.0	196
1632	11.05	41.3		14018	22422	19.9	197
1629	F <sub>t</sub> 12.80	47.0		14044	22352	19.9	197

1638	10.20	37.8		14000	22420	19.9	197
1637	13.60	50.1		13977	22366	19.9	197
1637	11-1/3	42.9		13966	22341	19.9	197
1636	11.05	41.9		14004	22418	19.9	197
1635	F <sub>t</sub> 12.80	47.3		14018	22432	20.0	197

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 4-4 DATE: 1 November 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 2500 (~~X~~/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SEA LEVEL~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1647	10.20	50.7	325	9083		18246	14.9	195
1646	13.60	67.1		9064		18196	14.9	196
1646	11.1/3	56.7		9065		18160	14.9	196
1645	11.05	55.5		9029		18174	14.9	195
1645	F <sub>t</sub> 12.80	63.9		8973		18189	14.8	195

1652	10.20	50.9		9165		18293	15.0	195
1651	13.60	66.8		9140		18274	15.0	195
1650	11-1/3	56.5		9084		18124	14.9	196
1650	11.05	55.6		9060		18134	14.9	196
1649	F <sub>t</sub> 12.80	63.7		9079		18177	14.9	196

1656	10.20	51.3		9147		18223	15.0	196
1655	13.60	67.3		9163		18194	15.0	196
1654	11-1/3	56.4		9188		18269	15.0	196
1654	11.05	55.0		9162		18250	15.0	196
1653	F <sub>t</sub> 12.80	62.8		9130		18215	15.0	196

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN

SITE NO. 6-1

DATE: 4 November 1978

 $I_{as}$  300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 2500 (X/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~XPKA~~ - SEA LEVEL)

TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D M E			DIST. km.	AZ. OT.
				D1	M	E		
1227	10.20	25.5	165	23174		29525	29.8	209
1226	13.60	33.7	165	23077		29391	29.7	210
1225	11.1/3	27.4	165	23021		29300	29.7	210
1216	11.05	26.8	345	22595		28464	29.6	214
1215	F <sub>t</sub> 12.80	32.1	345	22554		28478	29.5	214

1232	10.20	25.3	165	23248	29682	29.8	209
1231	13.60	33.6	165	23224	29651	29.8	209
1230	11-1/3	27.4	165	23216	29628	29.8	209
1229	11.05	26.8	165	23257	29650	29.9	209
1228	F <sub>t</sub> 12.80	31.8	165	23202	29573	29.8	209

1236	10.20	25.1	165	23452	29942	30.0	208
1235	13.60	33.4	165	23448	29941	30.0	208
1234	11-1/3	27.5	165	23297	29784	29.8	208
1234	11.05	27.0	165	23166	19619	29.7	208
1233	F <sub>t</sub> 12.80	31.7	165	23281	29727	29.8	208

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 6-2 DATE: 4 November 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 2500 (~~X~~ /ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SEA LEVEL~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D M E			DIST. km.	AZ. OT.
				D1	D2	D3		
1248	10.20	30.4	345	18043	24525	24.7	211	
1247	13.60	39.7		18151	24640	24.8	211	
1247	11.1/3	33.0		18135	24617	24.8	211	
1246	11.05	31.8		18077	24551	24.8	211	
1245	F <sub>t</sub> 12.80	38.0		18102	24572	24.8	211	

1252	10.20	30.6		17920	24381	24.6	211
1251	13.60	39.8		18059	24550	24.7	211
1250	11-1/3	33.0		18135	24617	24.8	211
1250	11.05	31.8		18129	24616	24.8	211
1249	F <sub>t</sub> 12.80	38.0		18087	24565	24.8	211

1257	10.20	31.4		16651	22756	23.6	216
1255	13.60	40.3		17505	23853	24.3	213
1254	11-1/3	33.1		17913	24319	24.7	212
1254	11.05	31.8		18072	24508	24.8	211
1253	F <sub>t</sub> 12.80	38.3		17872	24309	24.6	211

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 6-3 DATE: 4 November 1978I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 2500 (X/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~SUBGRADE~~ - SEA LEVEL)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1312	10.20	38.0	345	12683		19412	19.4	213
1312	13.60	49.9		12746		19481	19.5	213
1311	11.1/3	41.8		12741		19501	19.4	212
1310	11.05	40.5		12767		19539	19.4	212
1309	F <sub>t</sub> 12.80	47.8		12776		19581	19.4	212

1316	10.20	37.3		12726	19289	19.6	214
1315	13.60	49.0		12715	19322	19.5	214
1315	11-1/3	41.6		12697	19285	19.5	214
1314	11.05	39.9		12643	19299	19.4	214
1313	F <sub>t</sub> 12.80	46.7		12651	19351	19.4	213

1320	10.20	37.5		12640	19161	19.5	215
1319	13.60	49.2		12654	19181	19.5	215
1318	11-1/3	41.3		12695	19235	19.6	215
1317	11.05	39.5		12754	19304	19.6	215
1316	F <sub>t</sub> 12.80	46.1		12732	19295	19.3	214

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. 6-4 DATE: 4 November 1978

I<sub>as</sub> 300 A. K<sub>1</sub> 0 . 98 K<sub>2</sub> 1 . 00 K<sub>3</sub> 1 . 07LOOP HEIGHT 2500 (X/ft.) TRIPOD \_\_\_\_\_ HELICOPTER X  
(ABOVE: ~~XXXX~~ - SEA LEVEL)

TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK ROUTINE X

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. °T.
1331	10.20	48.8	347	8807		16017	15.3	213
1330	13.60	65.1		8824		16053	15.3	212
1330	11.1/3	54.3		8818		16046	15.3	212
1329	11.05	52.7		8774		15997	15.3	212
1328	F <sub>t</sub> 12.80	60.9		8771		15975	15.3	213

1334	10.20	49.0		8766		15944	15.3	213
1334	13.60	64.9		8803		15991	15.4	213
1333	11-1/3	54.5		8806		16014	15.3	213
1332	11.05	52.0		8905		16133	15.4	212
1331	F <sub>t</sub> 12.80	59.8		8864		16090	15.4	212

1339	10.20	49.3		8694		15836	15.3	214
1338	13.60	65.3		8761		15919	15.4	213
1337	11-1/3	54.7		8699		15852	15.3	213
1336	11.05	52.6		8830		15935	15.5	214
1335	F <sub>t</sub> 12.80	60.3		8719		15877	15.3	213

COMMENT

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. B1 DATE: 3 Nov 1978

I<sub>as</sub> 350 A. K<sub>1</sub> 0.98 K<sub>2</sub> 0.99 K<sub>3</sub> 1.00LOOP HEIGHT 2 (m. ~~sur~~) TRIPOD X HELICOPTER \_\_\_\_\_  
(ABOVE: SURFACE - ~~sur~~ LEVEL)

TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK X ROUTINE \_\_\_\_\_

TIME (LOCAL)	FREQUENCY (kHz)	E <sub>g</sub> (mV)	HEADING (Mag.)	D1	D M E	D2	DIST. km.	AZ. OT.
1546	10.20	30.1						
1543	13.60	38.2						
1541	11.1/3	31.9						
1538	11.05	31.7						
1533	F <sub>t</sub> 12.80	36.4						

1552	10.20	30.2						
1551	13.60	38.2						
1549	11-1/3	32.1						
1548	11.05	31.6						
1547	F <sub>t</sub> 12.80	36.4						

1559	10.20	30.3						
1558	13.60	38.0						
1556	11-1/3	31.6						
1555	11.05	31.4						
1554	F <sub>t</sub> 12.80	36.7						

COMMENT: NULL &gt; 40 db. NO POWER LINES.

NATIONAL SCENIC POINT - NO CHANGE LIKELY.

## DATA SHEET 5 (DS-5)

## RADIO FIELD INTENSITY MEASUREMENTS

OMEGA STATION: JAPAN SITE NO. B1 DATE: 3 NOV 1978 $I_{as}$  350 A.  $K_1$  0.98  $K_2$  0.99  $K_3$  1.00LOOP HEIGHT 2 (m. ~~SL~~) TRIPOD X HELICOPTER         
(ABOVE: SURFACE - ~~SEA LEVEL~~)TYPE OF MEASUREMENT: HELICOPTER CAL. BENCHMARK X ROUTINE       

TIME (LOCAL)	FREQUENCY (kHz)	$E_g$ (mV)	HEADING (Mag.)	D1	D	M	E	D2	DIST. km.	AZ. OT.
1620	10.20	28.8								
1618	13.60	36.1								
1612	11.1/3	30.5								
1611	11.05	32.0								
1609	$F_t$ 12.80	36.3								

	10.20									
	13.60									
	11-1/3									
	11.05									
	$F_t$ 12.80									

	10.20									
	13.60									
	11-1/3									
	11.05									
	$F_t$ 12.80									

COMMENT: STATION CREW PRACTICE. NOT ON DS-6.

OMEGA STATION: JAPAN SITE NUMBER: 2 DATE: 29 Oct 1978  
 Distance: 29.0 km.,  $K_1 = \frac{0.98}{I_a/I_{as}}$   $K_2 = \frac{1.00}{\text{Loop Factor}}$   $K_3 = \frac{1.02}{\text{Vehicle Factor}}$   
 (If constant)

DATA SHEET 6 (DS-6)

RADIO FIELD INTENSITY CALCULATIONS

Dist. (km.)	Freq. (kHz)	$I_{as}$ (A)	$E_g$ (mV)	$I_a$ (A)	$E_{rp}$ (mV/m)	$E_r$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (0hm)	$Erd/I_a$ (Units)
.	10.20	350	27.4	343	29.3	28.9	7.8	191	0.0665	2.447
.		27.1		29.0	28.6	7.7	189	0.0651	2.420	
.		27.3		29.2	28.8	7.8	190	0.0661	2.438	
.	13.60	36.4	38.9	38.7	38.7	14.0	191	0.1187	3.269	
.		36.4		38.9	38.7	14.0	191	0.1187	3.269	
.		36.6		39.2	38.9	14.1	192	0.1201	3.287	
.	11-1/3	29.2	31.2	30.9	8.9	184	0.0759	2.614		
.		29.4	31.7	31.3	9.2	186	0.0780	2.650		
.		29.9	32.0	31.7	9.4	188	0.0796	2.677		
.	11.05	29.0	31.0	30.7	8.8	187	0.0748	2.595		
.		28.9	30.9	30.6	8.7	186	0.0743	2.584		
.		29.0	31.0	30.7	8.8	187	0.0748	2.595		
.	Ft. 12.80	34.5	36.9	36.6	12.5	192	0.1065	3.096		
.		34.6	37.0	36.7	12.4	193	0.1071	3.105		
.		34.6	37.0	36.7	12.4	193	0.1071	3.105		
.										
.										
.										
.										

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

OMEGA STATION: JAPAN      SITE NUMBER: 2      DATE: 29 OCT 1978  
 Distance: 29 . 0 km., K<sub>1</sub> =  $\frac{0.98}{I_a/I_{as}}$     K<sub>2</sub> =  $\frac{1.00}{\text{Loop Factor}}$     K<sub>3</sub> =  $\frac{1.07}{\text{Vehicle Factor}}$   
 (If constant)

Dist. (km.)	Freq. (kHz)	I <sub>A</sub> (A)	E <sub>q</sub> (mV)	I <sub>a</sub> (A)	E <sub>m</sub> (mV/m)	P <sub>r</sub> (kW)	h <sub>r</sub> (m)	R <sub>r</sub> (0hm)	Erd/I <sub>a</sub> (Units)
.	10.20	350	27.2	343	29.1	28.7	7.7	190	0.0656
.	.	27.1	.	29.0	28.6	7.7	189	0.0651	2.420
.	.	27.1	.	29.0	28.6	7.7	189	0.0651	2.420
.	13.60	36.5	.	39.1	38.8	14.6	192	0.1194	3.278
.	.	36.5	.	39.1	38.8	14.0	192	0.1194	3.278
.	.	36.4	.	38.9	38.7	14.0	191	0.1187	3.269
.	11-1/3	29.6	31.7	31.3	9.2	186	0.0780	2.650	
.	.	29.5	31.6	31.2	9.1	185	0.0775	2.641	
.	.	29.7	31.8	31.4	9.2	187	0.0786	2.659	
.	11.05	29.0	31.0	30.7	8.8	187	0.0748	2.595	
.	.	28.9	30.9	30.6	8.7	186	0.0743	2.584	
.	.	28.9	30.9	30.6	8.7	186	0.0743	2.586	
F <sub>t</sub> 12.80	34.4	36.8	36.5	12.5	192	0.1059	3.087		
.	.	34.7	37.1	36.8	12.7	194	0.1077	3.114	
.	34.4	36.8	36.5	12.5	192	0.1059	3.087		
.	.	.	.	.	.	.	.	.	

HELICOPTER CAL.      BENCHMARK      ROUTINE      X  
 HEIGHT-GAIN, SURFACE (2 m.)  
 LOOP SIDE OF HELO TOWARD THE STATION

OMEGA STATION: JAPAN

DATE: 29 Oct 1978

$$\text{Distance: } 29 \text{ . } 0 \text{ km., } K_1 = \frac{0.98}{I_a/I_{as}} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.02}{\text{Vehicle Factor}}$$

(If constant)

HELICOPTER CAL.

BENCHMARK

ROUTINE 

HEIGHT-GAIN, 500 FT. ABOVE SEA LEVEL.

Dist. (km.)	Freq. (kHz)	$I_a$ (A)	$E_q$ (mV)	$I_a^3$ (A)	$E_r$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (Ohm)	$Erd/I_a$ (Units)
. 10.20	350	30.4	343	32.5	32.1	9.6	212	0.0819	2.715
.	.	.	.	.	.	.	.	.	.
.	13.60	40.0	42.8	42.5	16.9	210	0.1434	3.592	.
.	.	.	.	.	.	.	.	.	.
.	11-1/3	33.3	35.6	35.3	11.6	209	0.0988	2.981	.
.	.	.	.	.	.	.	.	.	.
.	11.05	32.4	34.7	34.3	11.0	209	0.0934	2.899	.
.	.	.	.	.	.	.	.	.	.
$F_{t,12.80}$	38.7	41.4	41.1	15.8	214	0.1340	3.472	.	.
.	.	.	.	.	.	.	.	.	.

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

## HELICOPTER CAL.

## BENCHMARK

ROUTINE    X

## HEIGHT-GAIN, 1,000 FT. ABOVE SEA LEVEL.

OMEGA STATION: JAPAN SITE NUMBER: 2 DATE: 29 Oct 1978  
 Distance: 29 . 0 km.,  $K_1 = \frac{0.98}{I_a/I_{as}}$   $K_2 = \frac{1.00}{\text{Loop Factor}}$   $K_3 = \frac{1.07}{\text{Vehicle Factor}}$   
 (If constant)

OMEGA STATION: JAPAN

SITE NUMBER: 2 DATE: 29 Oct 1978

$$\text{Distance: } \underline{29} \cdot \underline{0} \text{ km., } k_1 = \frac{0.98}{1 \text{ a/has}} \quad k_2 = \frac{1.00}{\text{Loop Factor}} \quad k_3 = \frac{1.07}{\text{Vehicle Factor}}$$

(If constant)

## RADIO FIELD INTENSITY CALCULATIONS

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL. \_\_\_\_\_ BENCHMARK \_\_\_\_\_ ROUTINE  X

## BENCHMARK

## ROUTINE

X

HEIGHT-GAIN, 1,500 FT. ABOVE SEA LEVEL.

OMEGA STATION: JAPAN

SITE NUMBER: 2

DATE: 29 OCT 1978

$$\text{Distance: } 29.0 \text{ km., } K_1 = \frac{0.98}{I_a/I_{as}} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

(If constant)

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

BENCHMARK

ROUTINE X

HEIGHT-GAIN, 2,000 FT. ABOVE SEA LEVEL

Dist. (km.)	Freq. (kHz)	$I_a$ (A)	$E_g$ (mV)	$I_a$ (A)	$E_r$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (0hm)	$Erd/I_a$ (Units)
.	10.20	350	31.4	343	33.6	33.2	10.3	219	0.0874
.	.	.	.	.	.	.	.	.	2.804
.	13.60	40.9	43.8	43.4	17.6	215	0.1499	3.673	.
.	.	.	.	.	.	.	.	.	.
.	11-1/3	33.8	36.2	35.8	12.0	212	0.1017	3.024	.
.	.	.	.	.	.	.	.	.	.
.	11.05	33.0	35.3	34.9	11.4	213	0.0969	2.953	.
.	Ft 12.80	38.9	41.4	41.3	15.9	217	0.1354	3.490	.
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.

OMEGA STATION: JAPAN

SITE NUMBER: B 2 DATE: 29 OCT 1978

$$\text{Distance: } 29.0 \text{ km., } K_1 = \frac{0.98}{I_d/I_{as}} \quad K_2 = \frac{0.99}{\text{Loop Factor}} \quad K_3 = \frac{1.00}{\text{Vehicle Factor}}$$

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

BENCHMARK

X

ROUTINE

Dist. (km.)	Freq. (kHz)	$I_{as}$ (A)	$E_g$ (mV)	$I_a^3$ (A)	$E_T$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (0hm)	$Erd/I_{as}$ (Units)
.	10.20	350	29.3	343	29.0	28.6	7.7	189	0.0651
.	.	29.3	.	.	29.0	28.6	7.7	189	0.0651
.	.	29.4	.	29.1	28.7	7.7	190	0.0656	2.429
.	13.60	39.6	39.2	38.9	38.9	14.2	193	0.1203	3.291
.	39.5	39.1	38.8	38.8	14.1	192	0.1197	3.282	.
.	39.7	39.3	39.0	39.0	14.2	193	0.1209	3.299	.
.	11.1/3	32.0	31.7	31.4	9.2	184	0.0781	2.651	.
.	32.3	32.0	31.6	31.6	9.4	188	0.0795	2.676	.
.	32.2	31.9	31.5	31.5	9.3	187	0.0790	2.667	.
.	11.05	31.4	31.1	30.7	8.8	187	0.0751	2.600	.
.	31.4	31.1	30.7	30.7	8.8	187	0.0751	2.600	.
.	31.4	31.1	30.7	30.7	8.8	187	0.0751	2.600	.
$F_{t12.80}$	37.2	36.8	36.5	36.5	12.5	192	0.1060	3.088	.
.	37.5	37.1	36.8	36.8	12.7	194	0.1077	3.113	.
.	37.4	37.0	36.7	36.7	12.6	193	0.1071	3.105	.
.	.	.	.	.	.	.	.	.	.

OMEGA STATION: JAPAN

OMEGA STATION: JAPAN SITE NUMBER: / - / DATE: 1 Nov 1978  
 Distance:        km.,  $K_1 = \frac{0.98}{\text{La/Las}}$   $K_2 = \frac{1.00}{\text{Loop Factor}}$   $K_3 = \frac{1.07}{\text{Vehicle Factor}}$   
 (If constant)

SITE NUMBER: / - / DATE: / Nov 1978

$$\text{Distance: } \frac{\text{km.}}{\text{Ia/Ias}} \cdot \text{If constant } K_1 = \frac{0.98}{\text{Ia/Ias}} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

SITE NUMBER: / - / DATE: / Nov 1978

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$$K_3 = \frac{1.03}{\text{Vehicle Factor}}$$

**SITE NUMBER**

2

$k_2$

R: / - / DATE: / Nov 1978

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$$K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

## HELICOPTER CAL.

## BENCHMARK

## ROUTINE

X

SITE NUMBER: 1-2 DATE: 1 Nov 1978

JAPAN: OMEGA STATION:

$$\text{Distance: } \frac{\text{km.}}{\text{If constant Loop Factor}} \cdot k_1 = \frac{0.98}{\frac{\text{km}}{\text{Loop Factor}}} \quad k_2 = \frac{1.00}{\text{Loop Factor}} \quad k_3 = \frac{1.02}{\text{Vehicle Factor}}$$

SITE NUMBER: 1-2 DATE: 1 Nov 1978

$$\frac{98}{as} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.02}{\text{Vehicle Factor}}$$

Dist. (km.)	Freq. (kHz)	$I_{as}$ (A)	$E_g$ (mV)	$I_a$ (A)	$E_r/m$	$E_r$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (Ohm)	$Erd/Ia$ (Units)
26.4	10.20	300	28.8	294	30.8	30.3	7.1	213	0.0825	2.725
26.4			28.8		30.8	30.3	7.1	213	0.0825	2.725
26.4		28.9		30.9	30.4	7.2	213	0.0831	2.734	
26.4	13.60		38.1		40.8	40.4	12.6	212	0.1463	3.629
26.3			38.5		41.2	40.8	12.8	214	0.1482	3.653
26.4		38.0		40.7	40.3	12.6	212	0.1455	3.619	
26.3	11-1/3		31.4		33.6	33.2	8.5	208	0.0979	2.968
26.3			31.4		33.6	33.2	8.5	208	0.0979	2.968
26.4		31.6		33.8	33.4	8.6	211	0.0999	2.998	
26.3	11.05		31.1		33.3	32.8	8.3	212	0.0959	2.937
26.4		30.6		32.7	32.3	8.1	209	0.0935	2.901	
26.4		30.7		32.8	32.4	8.1	210	0.0942	2.911	
26.3	$t_{12.80}$	36.5		39.1	38.7	11.5	215	0.1329	3.459	
26.4		36.5		39.1	38.7	11.6	216	0.1340	3.472	
26.4		36.3		38.8	38.5	11.5	215	0.1325	3.453	

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

## BENCHMARK

## **ROUTINE**

X

OMEGA STATION: JAPAN SITE NUMBER: / - 3 DATE: 1 Nov 1978

$$\text{Distance: } \frac{\text{km.}}{\text{If constant}} \cdot \frac{\text{Loop Factor}}{\text{K}_1 = \frac{0.98}{\text{Lia/ias}}} \quad \frac{\text{Loop Factor}}{\text{K}_2 = \frac{1.00}{\text{Vehicle Factor}}} \quad \frac{\text{Loop Factor}}{\text{K}_3 = \frac{1.07}{\text{Vehicle Factor}}}$$

JAPAN

$$\cdot \text{ km.}, \quad k_1 = \frac{\rho}{I_d}$$

SITE NUMBER: 1-3 DATE: 1 Nov 1978

$$\cdot \text{ km.}, \quad k_1 = \frac{\rho}{I_d}$$

**DATA SHEET 6 (DS-6)**

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

## BENCHMARK

## ROUTINE

X

SITE NUMBER: 1 - 4 DATE: 1 Nov 1978

$$\text{Distance: } \frac{\text{km.}}{\text{If constant}} \cdot \text{ Loop Factor} = \frac{0.98}{\frac{1}{\text{as}}} = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

OMEGA STATION: JAPAN

Dist. (km.)	Freq. (kHz)	$I_A$ (A)	$E_g$ (mV/m)	$I_A$ (A)	$E_r$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (Ohm)	$Erd/I_a$ (Units)
15.3	10.20	300	51.0	294	54.6	52.2	7.1	212	0.0819
15.3			51.2		54.8	52.4	7.1	213	0.0826
15.3		50.6		54.1	51.8	7.0	210	0.0807	2.694
15.3	13.60		67.2		71.9	70.1	12.8	213	0.1478
15.2		68.1		72.9	71.0	12.9	215	0.1497	3.671
15.3		67.7		72.4	70.6	13.0	215	0.1500	3.674
15.3	11-1/3		56.4		60.3	58.2	8.8	213	0.1019
15.2		57.0		61.0	58.8	8.9	213	0.1026	3.028
15.3		56.8		60.8	58.6	8.9	214	0.1033	3.039
15.3	11.05		55.4		59.3	57.0	8.5	214	0.0979
15.2		55.2		59.1	56.8	8.3	212	0.0959	2.937
15.3		55.5		59.4	57.1	8.5	214	0.0983	3.049
15.2	$t_{12.80}$	63.3		67.7	65.8	11.1	211	0.1285	3.401
15.3		63.4		67.8	65.9	11.3	213	0.1367	3.430
15.3		63.7		68.2	66.2	11.4	214	0.1320	3.446

OMEGA STATION: JAPAN

SITE NUMBER: 2-1

DATE: 31 OCT 1978

$$\text{Distance: } \text{km., } K_1 = \frac{0.98}{I_a/I_{as}} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.02}{\text{Vehicle Factor}}$$

DATA SHEET 6 (DS-6)  
RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

BENCHMARK

ROUTINE

X

Dist. (km.)	Freq. (kHz)	$I_{as}$ (A)	$E_g$ (mV)	$I_a$ (A)	$E_{tp}$ (mV/m)	$E_r$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (Ohm)	$Erd/I_a$ (Units)
30.2	10.20	300	25.7	294	27.5	27.2	7.5	218	0.0866	2.791
30.2		25.5		27.3	27.0	7.4	216	0.0852	2.770	
30.3		25.8		27.6	27.3	7.6	219	0.0878	2.812	
30.1	13.60		32.7		35.0	34.8	12.2	208	0.1407	3.558
30.2		32.5		34.8	34.5	12.1	208	0.1399	3.548	
30.2		32.7		35.0	34.8	12.2	209	0.1416	3.570	
30.3	11-1/3	26.8		28.7	28.4	8.2	206	0.0958	2.927	
30.3		26.5		28.4	28.1	8.0	203	0.0931	2.894	
30.3		26.6		28.5	28.2	8.1	204	0.0938	2.905	
30.2	11.05	26.2		28.0	27.8	7.8	205	0.0903	2.851	
30.3		26.3		28.1	27.9	7.9	207	0.0914	2.871	
30.4		26.5		28.4	28.1	8.1	209	0.0936	2.903	
30.3	$I_{t12.80}$	32.1		34.3	34.1	11.9	218	0.1371	3.513	
30.2		31.4		33.6	33.3	11.3	213	0.1304	3.425	
30.3		31.3		33.5	33.2	11.3	213	0.1304	3.426	
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## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

## HELICOPTER CAL.

## BENCHMARK

## ROUTINE

X

OMEGA STATION: JAPAN SITE NUMBER: 2-2 DATE: 31 Oct. 1978  
 Distance: — Km.,  $K_1 = \frac{0.98}{I_a/I_{as}}$   $K_2 = \frac{1.00}{\text{Loop Factor}}$   $K_3 = \frac{1.07}{\text{Vehicle Factor}}$   
 ([if constant])

OMEGA STATION: JAPAN SITE NUMBER: 2-3 DATE: 1 Nov. 1978  
 Distance: . km.,  $K_1 = \frac{0.98}{I_a/I_{as}}$   $K_2 = \frac{1.00}{\text{Loop Factor}}$   $K_3 = \frac{1.07}{\text{Vehicle Factor}}$   
 (If constant)

Dist. (km.)	Freq. (kHz)	$I_a^g$ (A)	$E_g$ (mV)	$I_a^g$ (A)	$E_{tr}$ (mV/m)	$E_{tr}$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_p$ (Ohm)	$E_{rd}/I_a^g$ (Units)
19.6	10.20	300	38.6	294	41.3	40.2	6.9	209	0.0797	2.678
19.7		38.2		40.9	39.8	6.8	208	0.0789	2.665	
19.7		38.2		40.9	39.8	6.8	208	0.0789	2.665	
19.7	13.60	51.5		55.1	54.3	12.7	213	0.1468	3.635	
19.7		51.7		55.3	54.5	12.8	214	0.1480	3.649	
19.7		51.7		55.3	54.5	12.8	214	0.1480	3.649	
19.7	11.13	42.9		45.9	44.9	8.7	211	0.1005	3.008	
19.7		43.1		46.1	45.1	8.8	212	0.1015	3.022	
19.7		43.5		46.5	45.5	8.9	214	0.1034	3.050	
19.8	11.05	41.4		44.3	43.3	8.2	210	0.0944	2.915	
19.7		42.2		45.2	44.1	8.4	213	0.0970	2.955	
19.6		41.8		44.7	43.7	8.1	210	0.0942	2.912	
19.9	12.80	47.0		50.3	49.4	10.8	208	0.1244	3.346	
19.6		48.2		51.6	50.7	11.0	216	0.1268	3.378	
19.7		48.0		51.4	50.5	11.0	210	0.1270	3.381	
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		.								

OMEGA STATION: JAPAN

SITE NUMBER: 2-4

DATE: 1 Nov 1978  
Distance: km.,  $K_1 = \frac{0.98}{I_a/I_{as}}$   $K_2 = \frac{1.00}{\text{Loop Factor}}$   $K_3 = \frac{1.02}{\text{Vehicle Factor}}$ 

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

BENCHMARK

ROUTINE

X

Dist. (km.)	Freq. (kHz)	$I_{as}$ (A)	$E_g$ (mV)	$I_a$ (A)	$E_{rp}$ (mV/m)	$E_r$ (mV/m)	$P_r$ (kW)	$h_r$ (m)	$R_r$ (m)	$E_{rd}/I_a$ (Units)
15.9	10.20	300	48.2	294	51.6	49.5	6.9	209	0.0995	2.676
16.0			47.4		50.7	48.7	6.7	207	0.0780	2.649
16.3			47.0		50.3	48.3	6.9	209	0.0798	2.680
15.9	13.60		64.7		69.2	67.6	12.8	214	0.1485	3.656
16.0			63.9		68.4	66.8	12.7	213	0.1468	3.635
16.1			63.2		67.6	66.1	12.6	212	0.1455	3.618
15.9	11-13		54.2		58.0	56.1	8.8	213	0.1021	3.032
16.0			53.6		57.4	55.5	8.7	212	0.1012	3.018
16.1			52.5		56.2	54.3	8.5	209	0.0984	2.976
15.8	11.05		53.3		57.0	55.0	8.4	213	0.0971	2.956
16.0			52.3		56.0	54.0	8.3	212	0.0961	2.940
16.1			52.9		56.4	54.7	8.4	216	0.0996	2.994
15.7	12.80		61.4		65.7	63.9	11.2	212	0.1295	3.413
16.0			59.8		64.0	62.3	11.0	211	0.1278	3.391
16.1			59.5		63.7	62.0	11.1	211	0.1282	3.396
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**DATA SHEET 6 (DS-6)**

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

## BENCHMARK

## ROUTINE

X

SITE NUMBER: 3-1 DATE: 31 Oct. 1978

$$\text{Distance: } \frac{\text{If constant}}{\text{km. , }} \quad K_1 = \frac{0.98}{\text{Ta/Tas}} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

OMEGA STATION: JAPAN

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Distance: \_\_\_\_\_ .  
(If constant)

OMEGA STATION: JAPAN SITE NUMBER: 3-2 DATE: 31 Oct 1978  
Distance: \_\_\_\_\_ km.,  $K_1 = \frac{0.98}{1.118}$ ,  $K_2 = \frac{1.00}{\text{Loop Factor}}$ ,  $K_3 = \frac{1.02}{\text{Vehicle Factor}}$   
(if constant)

$$\text{Distance: } \frac{\text{If constant}}{\text{km., }} \quad k_1 = \frac{0.98}{\text{L/As}} \quad k_2 = \frac{1.00}{\text{Loop Factor}} \quad k_3 = \frac{1.02}{\text{Vehicle Factor}}$$

# DATA SHEET 6 (DS-6)

HELICOTER CAL.

## BENCHMARK

## ROUTINE

X

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

## BENCHMARK

## ROUTINE

X

3-3 DATE: 3 / Oct / 1978

SITE NUMBER:

$$\text{Distance: } \frac{\text{km.}}{\text{If constant}} \quad K_1 = \frac{0.98}{\frac{1}{\text{L}}/\text{as}} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

OMEGA STATION: JAPAN

$$\text{Distance: } \frac{I_a/I_{as}}{K_1} \text{ km., } K_1 = \frac{0.98}{I_a/I_{as}}$$

SITE NUMBER: 3-4 DATE: 31 Oct 1978

$$\frac{98}{as} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL. \_\_\_\_\_ BENCHMARK \_\_\_\_\_ ROUTINE ✓

OMEGA STATION: JAPAN

SITE NUMBER: 4-1

DATE: NOV 1978

$$\text{Distance: } \text{km.}, K_1 = \frac{0.98}{I_a/I_{as}} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

(If constant)

DATA SHEET 6 (DS-6)  
RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

BENCHMARK

ROUTINE

X

Dist. (km.)	Freq. (kHz)	$I_a$ (A)	$E_q$ (mV)	$I_a$ (A)	$E_r/m$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (0hm)	$Erd/I_a$ (Units)
29.5	10.20	300	26.0	294	27.8	27.5	7.3	215	0.0845
29.7			25.8		27.6	27.3	7.3	215	0.0843
29.7			25.6		27.4	27.1	7.2	213	0.0830
29.4	13.60		34.1		36.5	36.2	12.4	212	0.1458
29.6			34.2		36.4	36.3	12.7	213	0.1467
29.7			34.2		36.6	36.3	12.9	215	0.1498
29.4	11-1/3		28.7		30.7	30.4	8.9	213	0.1027
29.6			28.4		30.4	30.1	8.8	213	0.1019
29.7			28.3		30.3	30.0	8.8	213	0.1019
29.3	11.05		28.1		30.1	29.7	8.4	213	0.0976
29.6			27.6		29.5	29.2	8.3	212	0.0962
29.7			27.4		29.3	29.0	8.2	211	0.0954
29.3	$f_{t12.80}$		33.0		35.3	35.0	11.7	217	0.1354
29.6			32.7		35.0	34.7	11.7	217	0.1357
29.7			32.1		34.3	34.1	11.4	214	0.1317
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OMEGA STATION: JAPAN

SITE NUMBER: 4-2 DATE: 1 Nov 1978

$$\text{Distance: } \frac{\text{km.}}{\text{(If constant)}} \quad \text{km.}, \quad K_1 = \frac{0.98}{I_a/I_{as}} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

BENCHMARK

ROUTINE

X

Dist. (km.)	Freq. (kHz)	$I_{as}$ (A)	$E_g$ (mV)	$I_a$ (A)	$E_{rf}$ (mV/m)	$P_r$ (kW)	$h_g$ (m)	$R_r$ (ohm)	$Erd/I_a$ (Units)
25.3	10.20	300	29.4	294	31.5	30.9	6.8	208	0.0787 2.662
25.5		29.2		31.2	30.7	6.8	208	0.0789 2.665	
25.6		29.3		31.4	30.8	6.9	209	0.0801 2.685	
25.3	13.60	39.5		42.3	41.9	12.5	211	0.1442 3.603	
25.4		39.5		42.3	41.9	12.4	212	0.1454 3.617	
25.6		39.1		41.8	41.4	12.5	211	0.1447 3.609	
25.2	11-13	33.3		35.6	35.1	8.7	212	0.1008 3.012	
25.4		33.1		35.4	34.9	8.8	212	0.1012 3.019	
25.6		32.4		34.9	34.4	8.4	210	0.0998 2.997	
25.3	11.05	32.0		34.2	33.8	8.1	209	0.0937 2.904	
25.3		32.1		34.3	33.9	8.2	210	0.0943 2.914	
25.5		31.8		34.0	33.5	8.1	210	0.0941 2.910	
25.3	$I_{12.80}$	37.2		39.8	39.4	11.0	211	0.1276 3.389	
25.2		37.3		39.9	39.5	11.0	210	0.1272 3.384	
25.5		37.0		39.6	39.2	11.1	211	0.1283 3.398	
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**DATA SHEET F (DS-6)**

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

## BENCHMARK

## **ROUTINE**

OMEGA STATION: JAPAN SITE NUMBER: 4-3 DATE: Nov 1978

$$\text{Distance: } \frac{\text{km.}}{\text{If constant}} \cdot \kappa_1 = \frac{0.98}{\frac{1}{\text{a}}/\frac{1}{\text{as}}} \quad \kappa_2 = \frac{1.00}{\text{Loop Factor}} \quad \kappa_3 = \frac{1.07}{\text{Vehicle Factor}}$$

Vehicle Factor  
1.07

$$k_2 = \frac{1.00}{\text{Loop Factor}}$$

Distance: \_\_\_\_\_

Dist. (km.)	Freq. (kHz)	$I_A^S$ (A)	$E_g$ (mV)	$I_A^A$ (A)	$E_r/m$ (mV/m)	$E_r$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (Ohm)	$Erd/I_a$ (Units)
19.9	10.20	300	36.9	294	39.5	38.4	6.5	203	0.0752	2.601
20.0			37.4	40.0	39.0	6.7	207	0.0781	2.651	
19.9			37.8	40.4	39.4	6.8	208	0.0789	2.665	
19.7	13.60		49.9	53.4	52.6	11.9	206	0.1378	3.522	
19.9			50.2	53.7	52.9	12.3	209	0.1424	3.580	
19.9			50.1	53.4	52.8	12.3	209	0.1419	3.573	
19.9	11-1/3		41.2	44.1	43.1	8.2	205	0.0947	2.919	
20.0			41.6	44.5	43.6	8.4	208	0.0975	2.963	
19.9			42.9	45.9	44.9	8.9	213	0.1027	3.040	
20.2	11.05		40.1	42.9	42.0	8.0	208	0.0923	2.883	
19.9			41.3	44.2	43.2	8.2	211	0.0949	2.923	
19.9			41.9	44.8	43.8	8.4	214	0.0971	2.966	
20.4	$t_{12.80}$		46.0	49.2	48.4	10.8	209	0.1254	3.360	
19.9			47.0	50.3	49.4	10.8	208	0.1244	3.346	
20.0			47.3	50.6	49.8	11.0	210	0.1273	3.385	

OMEGA STATION: JAPAN

SITE NUMBER: 4-4 DATE: 1 Nov 1978

$$\text{Distance: } \text{km.}, \quad k_1 = \frac{0.98}{I_a/I_{as}} \quad k_2 = \frac{1.00}{\text{Loop Factor}} \quad k_3 = \frac{1.07}{\text{Vehicle Factor}}$$

(If constant)

Dist. (km.)	Freq. (kHz)	$I_a$ (A)	$E_g$ (mV)	$I_a$ (A)	$E_{r0}$ (mV/m)	$E_r$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (Ohm)	$Erd/I_a$ (Units)
14.9	10.20	300	50.7	294	54.2	51.8	6.6	205	0.0764	2.623
15.0		50.9		54.5	52.0	6.8	207	0.0782	2.653	
15.0		51.3		54.9	52.4	6.9	209	0.0794	2.673	
14.9	13.60	67.1		71.8	69.9	12.0	207	0.1394	3.542	
15.0		66.8		71.5	69.6	12.1	208	0.1401	3.551	
15.0		67.3		72.0	70.1	12.3	209	0.1422	3.577	
14.9	11-1/3	56.7		60.7	58.4	8.4	208	0.0973	2.959	
14.9		56.5		60.5	58.2	8.3	207	0.0966	2.948	
15.0		56.9		60.3	58.1	8.4	208	0.0976	2.964	
14.9	11.05	55.5		59.4	57.0	8.6	208	0.0928	2.891	
14.9		55.6		59.5	57.1	8.1	209	0.0932	2.896	
15.0		55.0		58.9	56.6	8.0	208	0.0925	2.885	
14.8	$F_{t_1} 2.80$	63.9		68.4	66.3	10.7	207	0.1238	3.338	
14.9		63.7		68.2	66.1	10.8	208	0.1248	3.351	
15.0		62.8		67.2	65.2	10.6	207	0.1230	3.327	
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OMEGA STATION: JAPAN

SITE NUMBER: 6-1 DATE: 4 Nov 1978

Distance: \_\_\_\_\_ km.,  $k_1 = \frac{0.98}{1a/las}$     $k_2 = \frac{1.00}{\text{Loop Factor}}$     $k_3 = \frac{1.07}{\text{Vehicle Factor}}$

DATA SHEET 6 (DS-6)

HELICOPTER CAL.

# BENCHMARK

## ROUTINE

X

OMEGA STATION: JAPAN SITE NUMBER: 6-2 DATE: 4 Nov 1978  
 Distance: km., mi.  $K_1 = \frac{0.98}{1.17}$   $K_2 = \frac{1.00}{1.00 \text{ Factor}}$   $K_3 = \frac{1.07}{\text{Vehicle Factor}}$

**DATA SHEET 6 (DS-6)**

**RADIO FIELD INTENSITY CALCULATIONS**

HELICOPTER CAL. \_\_\_\_\_ BENCHMARK \_\_\_\_\_ ROUTINE A

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

BENCHMARK

ROUTINE

X

OMEGA STATION: JAPAN SITE NUMBER: 6-3 DATE: 4 Nov 78  
 Distance: Km.,  $K_1 = \frac{0.98}{I_a/I_{as}}$   $K_2 = \frac{1.00}{\text{Loop Factor}}$   $K_3 = \frac{1.07}{\text{Vehicle Factor}}$   
 (If constant)

Dist. (km.)	Freq. (kHz)	$I_a$ (A)	$E_g$ (mV)	$I_a^a$ (A)	$E_r$ (mV/m)	$E_r$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (Ohm)	$Erd/I_a^a$ (Units)
19.4	10.20	300	38.0	294	40.7	39.5	6.5	203	0.0756	2.608
19.4		37.3		39.9	38.8	6.4	202	0.0744	2.588	
19.5		37.5		40.1	39.0	6.4	202	0.0744	2.588	
19.5	13.60	49.9		53.4	52.5	11.7	204	0.1350	3.485	
19.5		49.0		52.4	51.4	11.2	200	0.1301	3.422	
19.5		49.2		52.6	51.8	11.3	201	0.1312	3.436	
19.4	11-1/3	41.8		44.7	43.7	8.0	203	0.0924	2.884	
19.5		41.6		44.5	43.5	8.0	203	0.0925	2.884	
19.6		41.3		44.2	43.2	8.0	202	0.0922	2.880	
19.4	11.05	40.5		43.3	42.3	7.5	201	0.0844	2.791	
19.4		39.9		42.7	41.7	7.3	198	0.0840	2.750	
19.6		39.5		42.3	41.3	7.3	198	0.0841	2.752	
19.4	t.12.80	47.8		51.1	50.2	10.5	206	0.1220	3.314	
19.4		46.7		50.0	49.1	10.1	201	0.1165	3.238	
19.3		46.1		49.3	48.4	9.7	198	0.1123	3.179	
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OMEGA STATION: JAPAN

SITE NUMBER: 6-4 DATE: 4 NOV 1978

$$\text{Distance: } . \quad \text{km.}, \quad K_1 = \frac{0.98}{I_a/I_{as}} \quad K_2 = \frac{1.00}{\text{Loop Factor}} \quad K_3 = \frac{1.07}{\text{Vehicle Factor}}$$

## DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

BENCHMARK

ROUTINE

X

Dist. (km.)	Freq. (kHz)	$I_a^S$ (A)	$E_q$ (mV)	$I_a^A$ (A)	$E_r^q$ (mV/m)	$E_r^A$ (mV/m)	$P_r$ (kW)	$h_g$ (m)	$R_r$ (Ohm)	$Erd/I_a^q$ (Units)
15.3	10.20	300	48.8	294	52.2	49.9	6.5	203	0.0750	2.598
15.3		49.0		52.4	50.1	6.5	2.04	0.0754	2.609	
15.3		49.3		52.8	50.4	6.6	2.05	0.0766	2.625	
15.3	13.60	65.1		69.7	67.9	12.0	2.07	0.1387	3.533	
15.4		64.9		69.4	67.7	12.1	2.08	0.1398	3.546	
15.4		65.3		69.9	68.1	12.2	2.09	0.1415	3.568	
15.3	11-1/3	54.3		58.1	56.0	8.2	2.05	0.0944	2.915	
15.3		54.5		58.3	56.2	8.2	2.05	0.0951	2.926	
15.3		54.7		58.5	56.4	8.3	2.06	0.0958	2.937	
15.3	11.05	52.7		56.4	54.3	7.7	2.03	0.0886	2.824	
15.4		52.0		55.6	53.6	7.4	2.02	0.0875	2.806	
15.5		52.6		56.3	54.2	7.8	2.06	0.0908	2.858	
15.3	$F_{t12.80}$	60.9		65.2	63.3	10.4	2.05	0.1206	3.295	
15.4		59.8		64.0	62.2	10.2	2.03	0.1179	3.257	
15.3		60.3		64.5	62.7	10.2	2.03	0.1182	3.262	
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OMEGA STATION: JAPAN

SITE NUMBER: B1 DATE: 3 NOV 1978

$$\text{Distance: } \frac{35}{\text{If constant}} \cdot 2 \text{ km.}, \quad k_1 = \frac{C_1}{I_a/I_{as}} \cdot 98 \quad k_2 = \frac{C_2}{\text{Loop Factor}} \cdot 99 \quad k_3 = \frac{C_3}{\text{Vehicle Factor}} \cdot 100$$

DATA SHEET 6 (DS-6)

## RADIO FIELD INTENSITY CALCULATIONS

HELICOPTER CAL.

BENCHMARK

X

ROUTINE

Dist. (km.)	Freq. (kHz)	$I_{as}$ (A)	$E_g$ (mV)	$I_a$ (A)	$E_r^g$ (mV/m)	$P_r$ (kW)	$h_e$ (m)	$R_r$ (0m)	$Erd/I_a$ (Units)
.	10.20	350	30.1	343	29.8	29.5	12.5	241	0.1063
.		30.2		29.9	29.6	12.6	242	0.1070	3.103
.		30.3		30.0	29.7	12.7	243	0.1077	3.113
.	13.60	38.2		37.8	37.6	20.3	231	0.1724	3.939
.		38.2		37.8	37.6	20.3	231	0.1724	3.939
.		38.0		37.6	37.4	20.1	229	0.1706	3.919
.	11-1/3	31.9		31.4	31.4	14.1	231	0.1197	3.283
.		32.1		31.8	31.4	14.3	232	0.1213	3.303
.		31.6		31.3	31.1	13.8	228	0.1175	3.252
.	11.05	31.7		31.4	31.2	13.9	235	0.1182	3.261
.		31.6		31.3	31.1	13.8	234	0.1174	3.251
.		31.4		31.1	30.9	13.4	233	0.1159	3.230
$t_{12.80}$	36.4			36.0	35.8	18.4	233	0.1564	3.752
.	36.6			36.2	36.0	18.6	235	0.1581	3.772
.	36.7			36.3	36.1	18.7	235	0.1590	3.782
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